

1/17

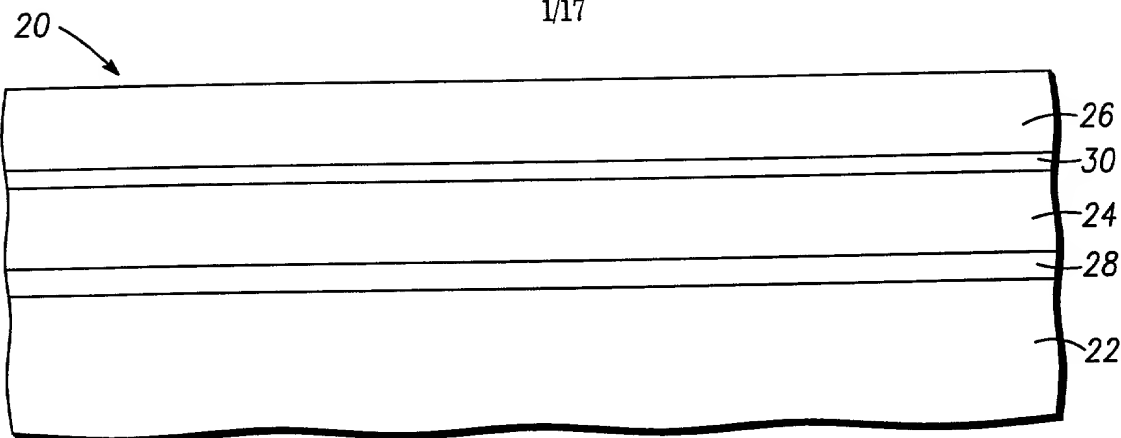


FIG. 1

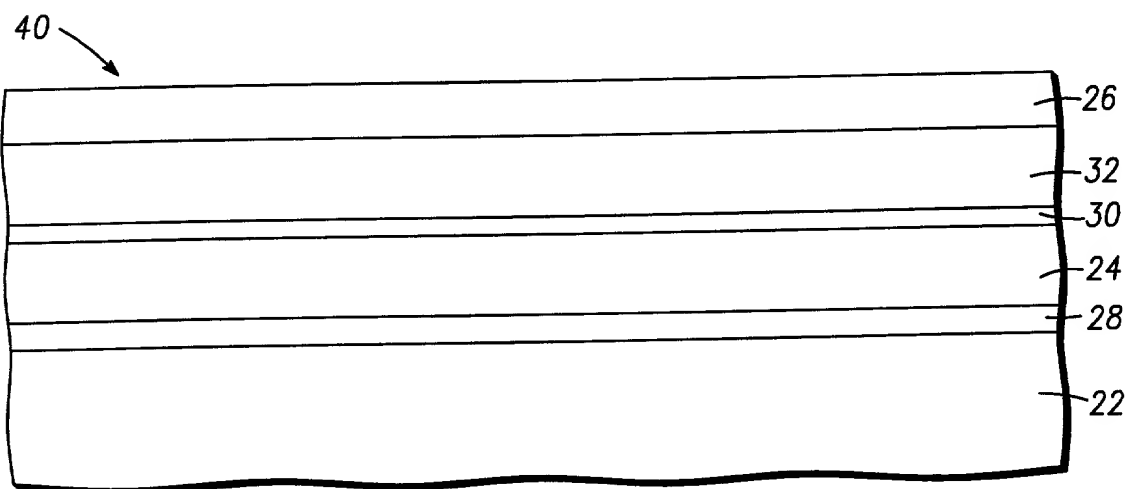


FIG. 2

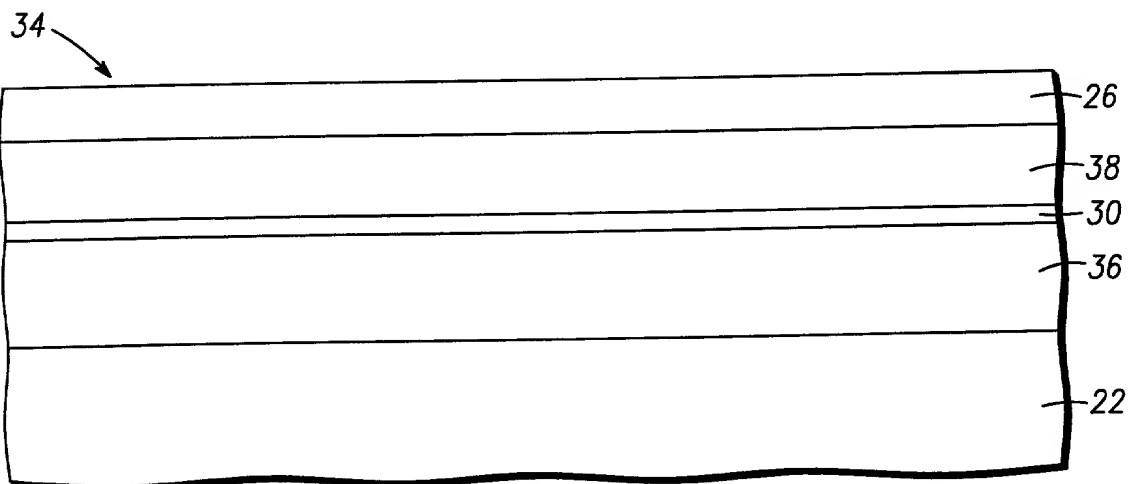


FIG. 3

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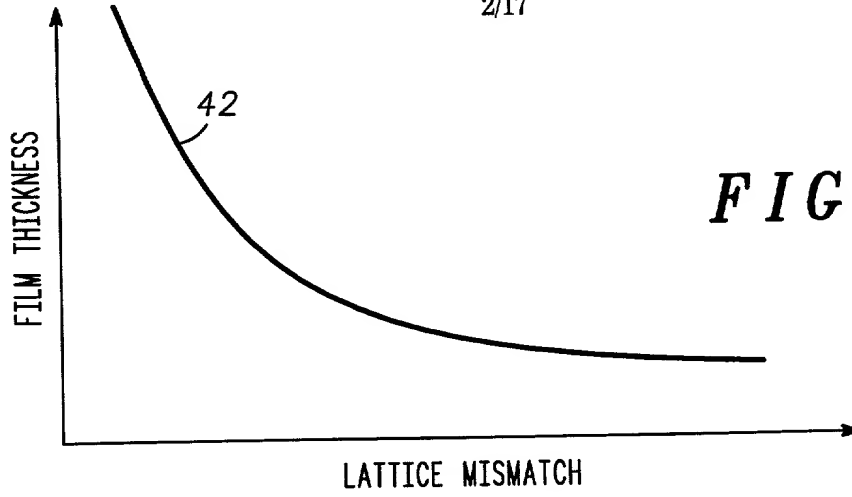


FIG. 4

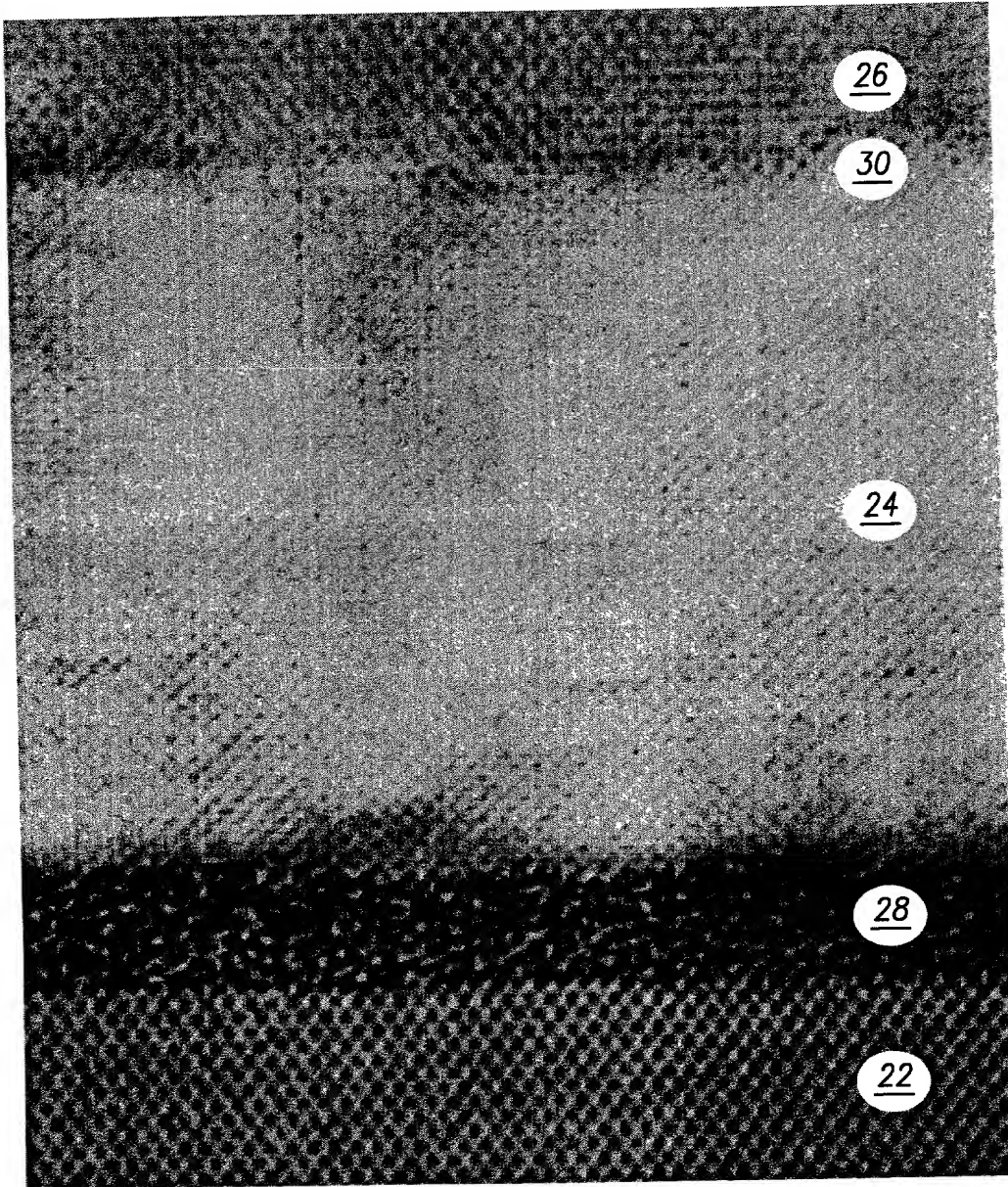


FIG. 5

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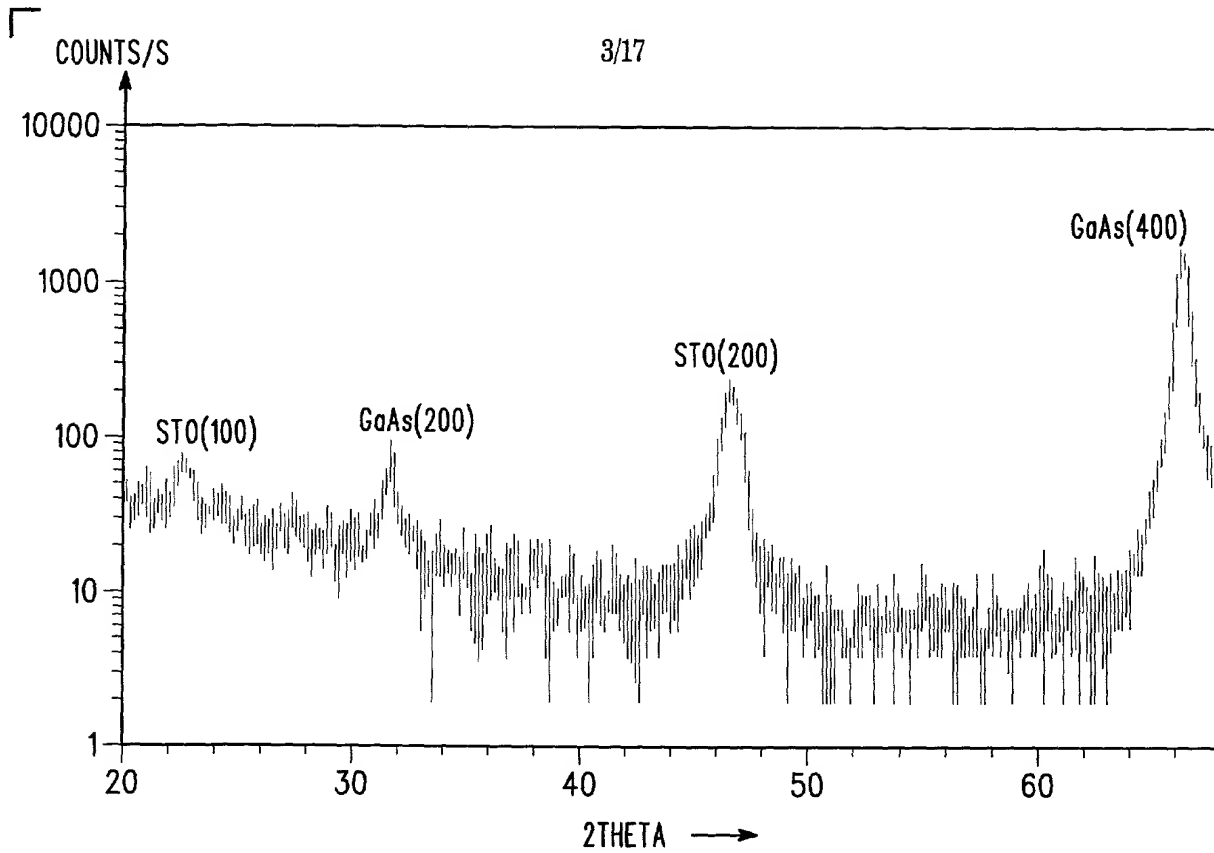


FIG. 6

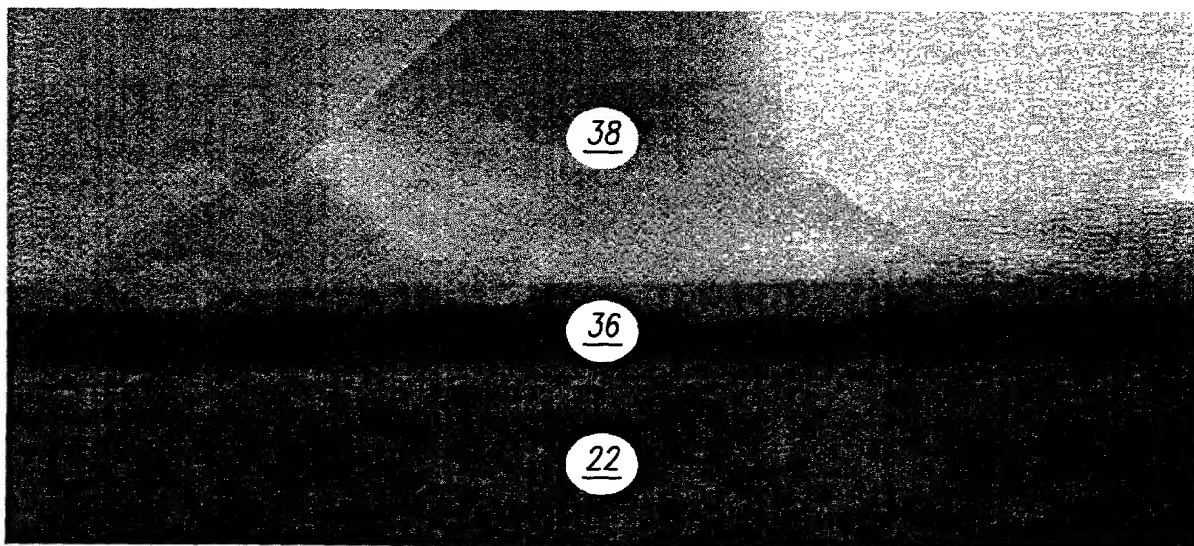


FIG. 7

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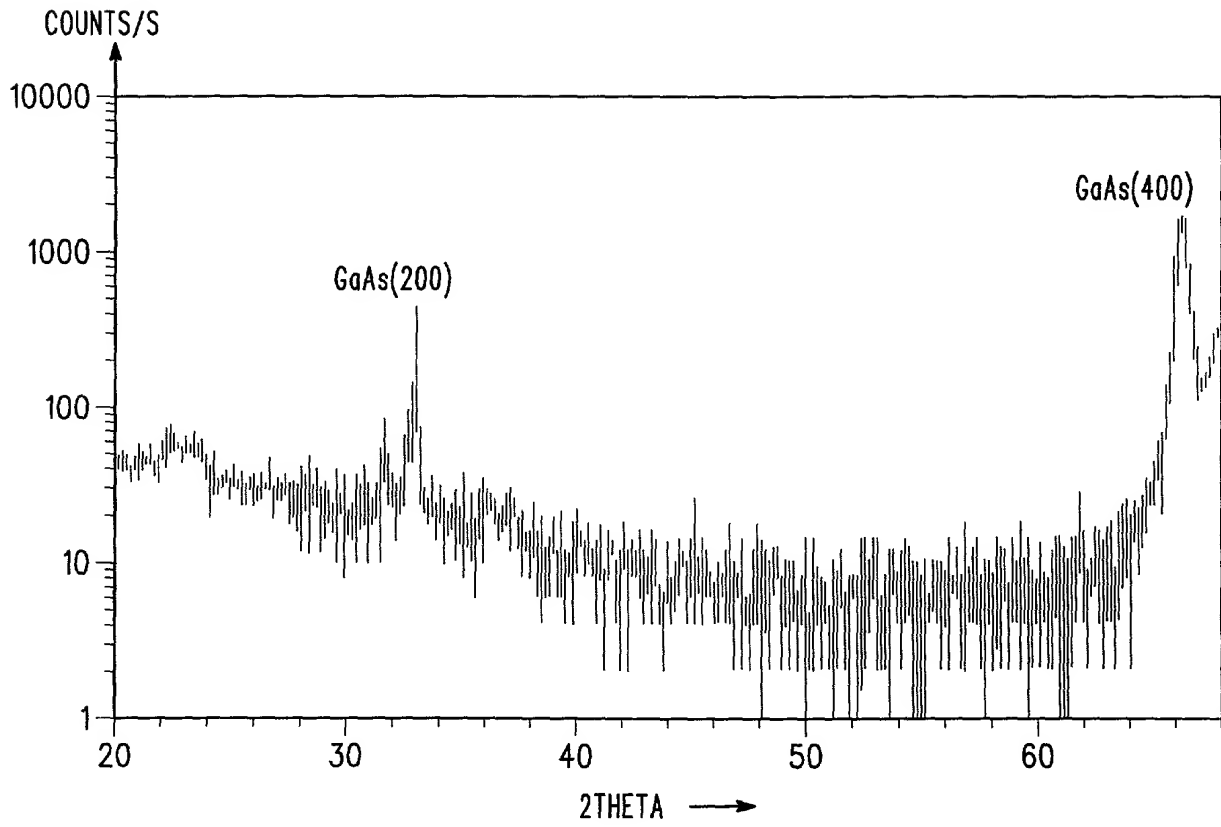


FIG. 8

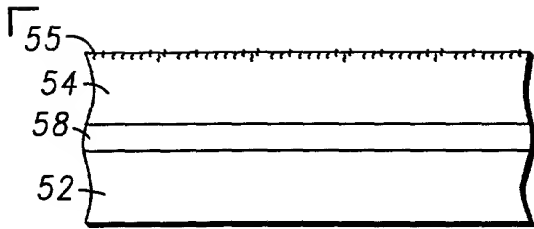


FIG. 9

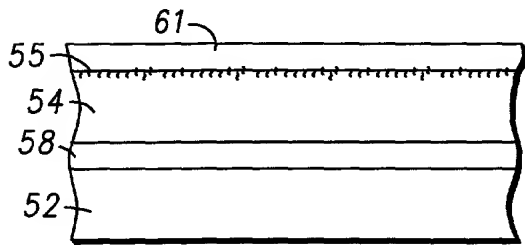


FIG. 10

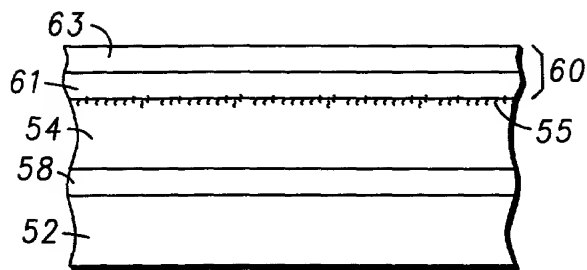


FIG. 11

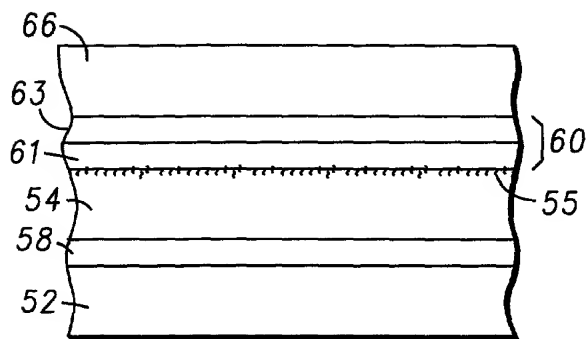


FIG. 12

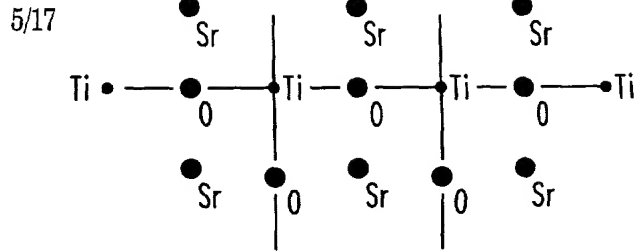


FIG. 13

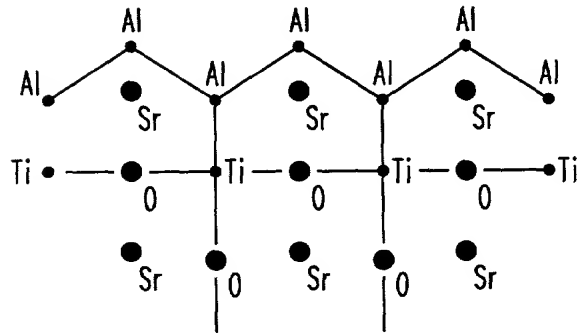


FIG. 14

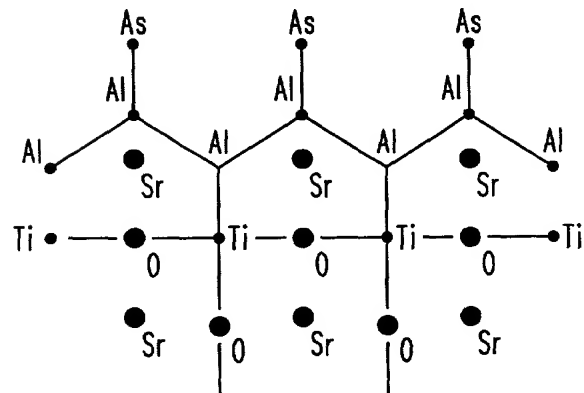


FIG. 15

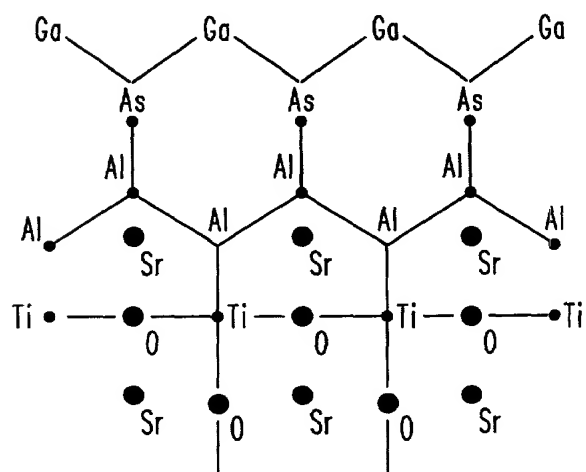


FIG. 16

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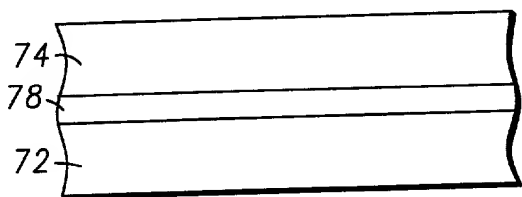


FIG. 17

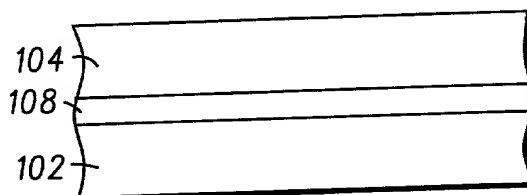


FIG. 21

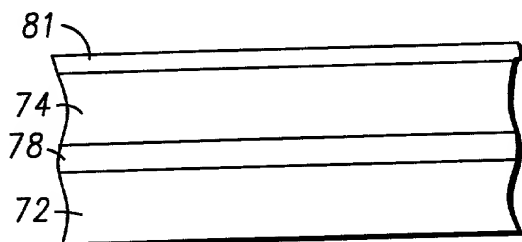


FIG. 18

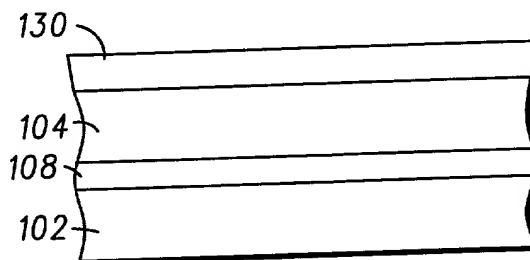


FIG. 22

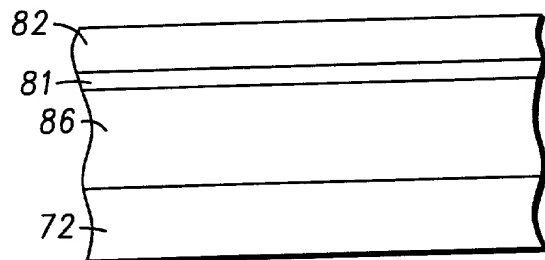


FIG. 19

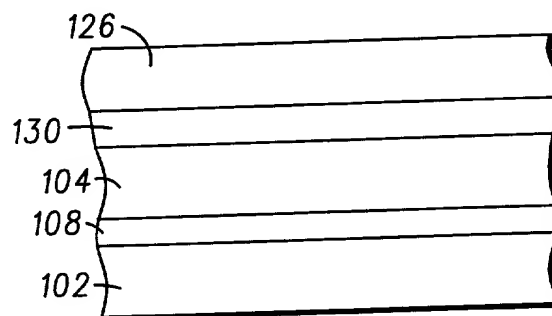


FIG. 23

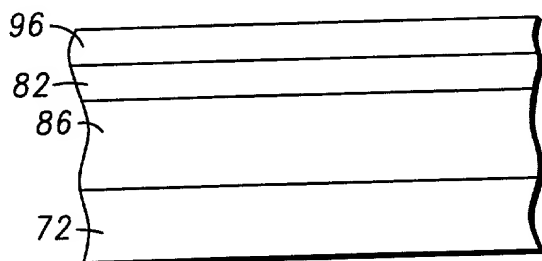
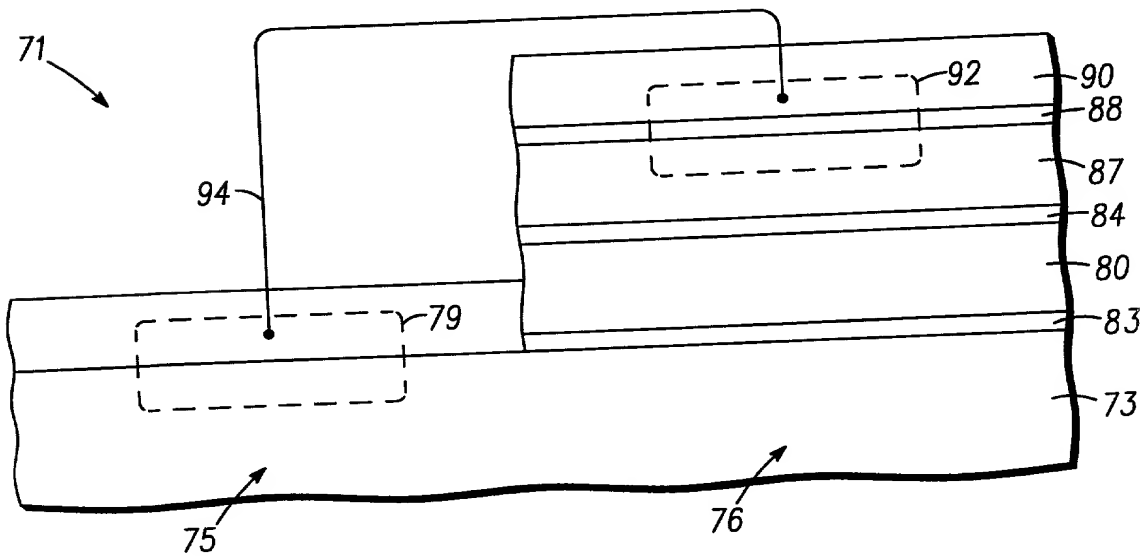
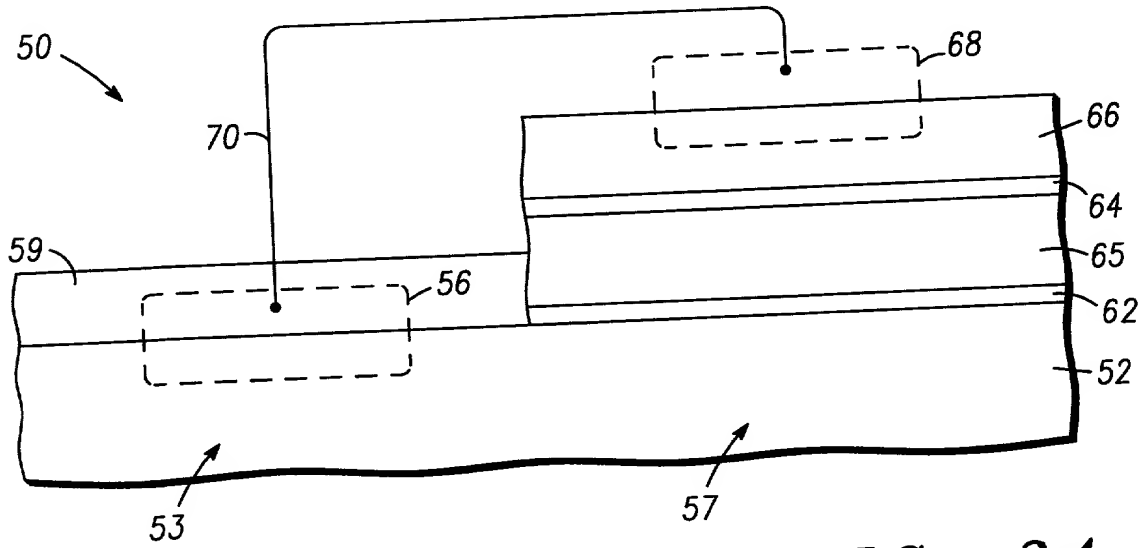


FIG. 20

FIG. 20: 14340650

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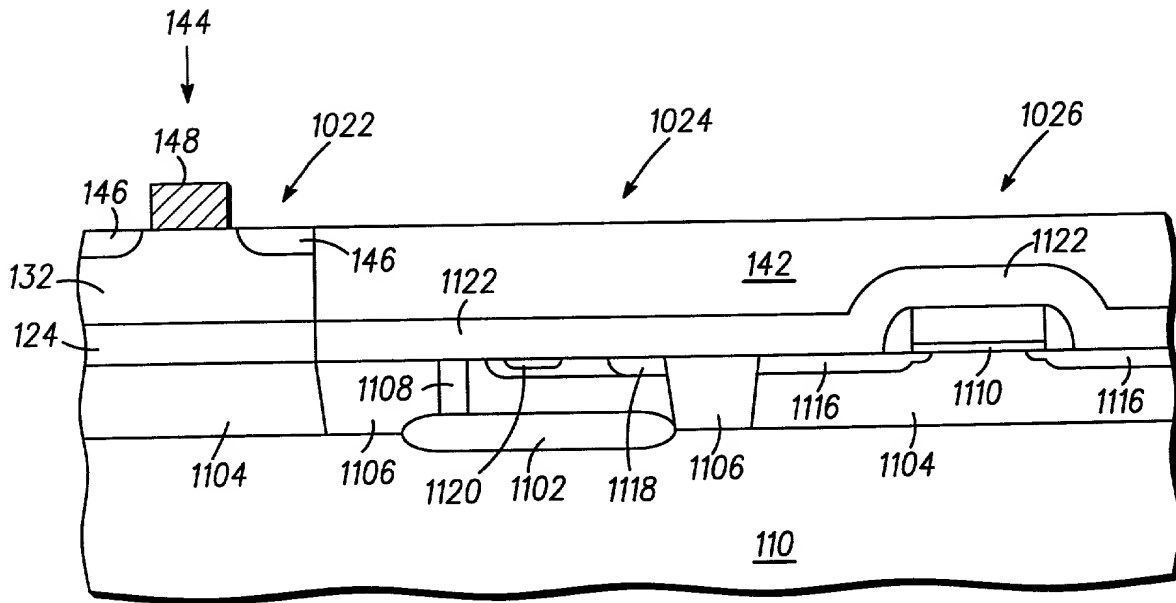
This cross-sectional view shows a semiconductor device with a substrate 110. A trench 1102 is formed in the substrate, with a bottom surface 1104 and side walls 1106. A gate structure 1108 is formed on the side walls 1106, with a top surface 1110 and side walls 1116. A gate oxide layer 1118 is formed on the bottom surface 1104. A gate electrode 1120 is formed on the gate oxide layer 1118. A gate insulating layer 1122 is formed on the gate electrode 1120. A gate contact 1124 is formed on the gate insulating layer 1122. A gate pad 1125 is formed on the gate contact 1124. A gate lead 1126 is formed on the gate pad 1125.

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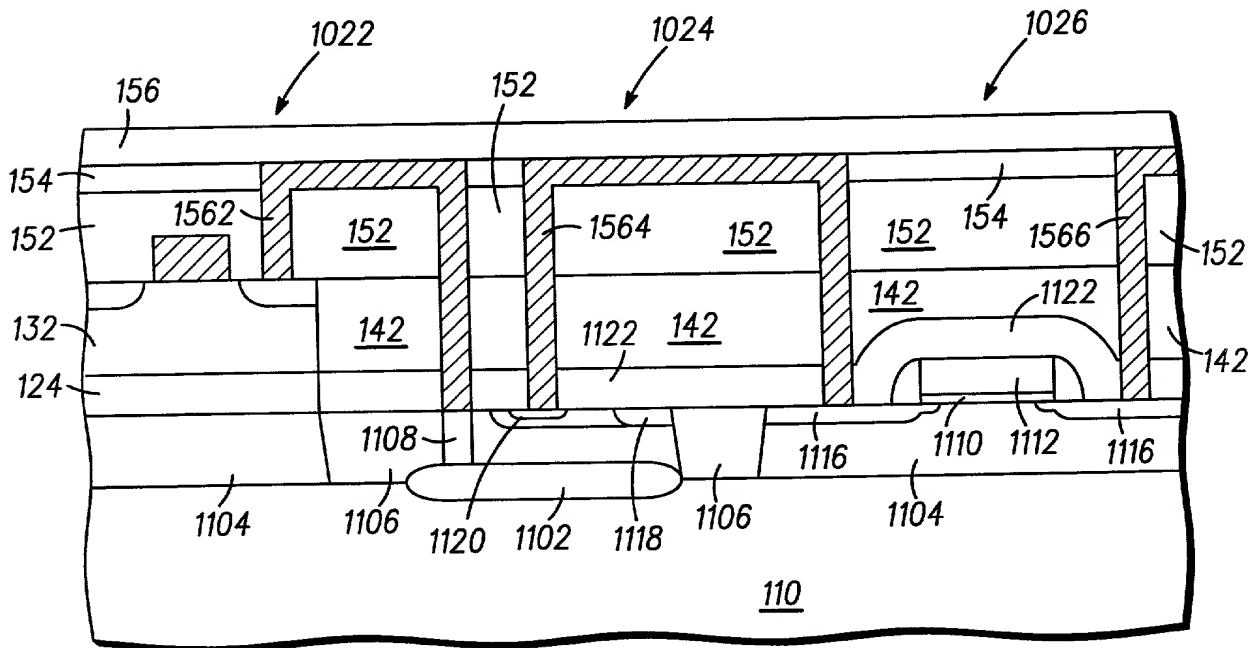
103

FIG. 28

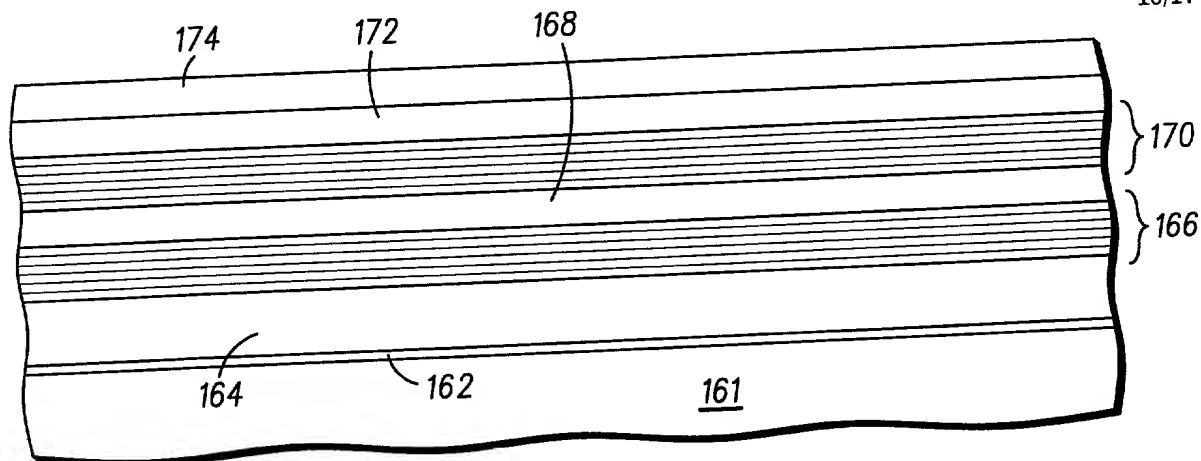
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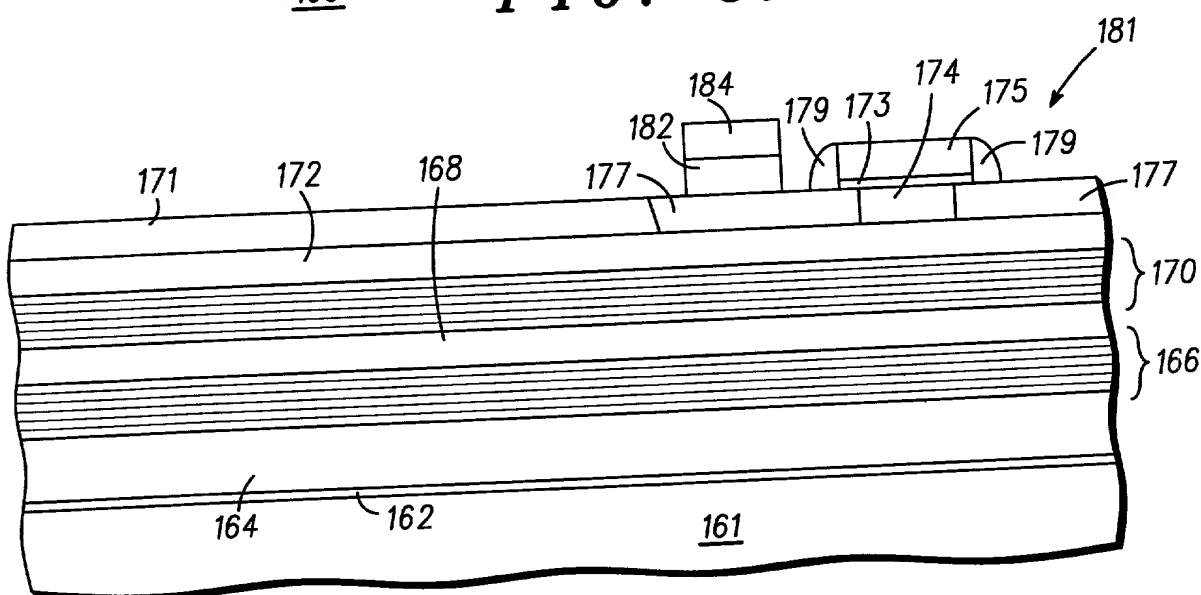
103 **FIG. 29**



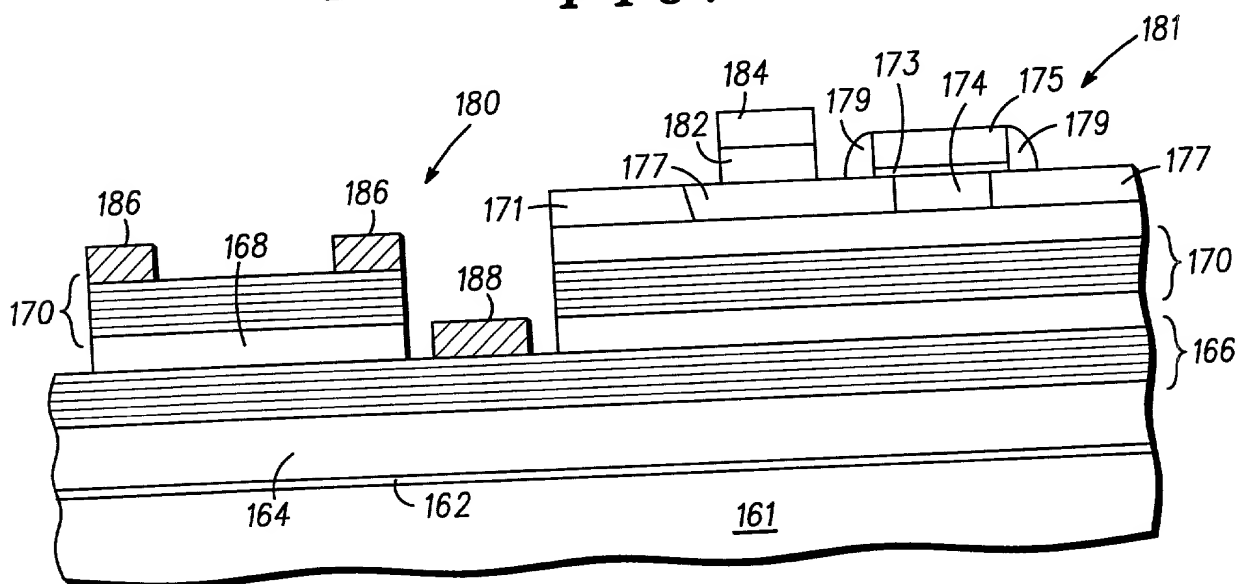
103 **FIG. 30**



160 *FIG. 31*



160 *FIG. 32*



160 *FIG. 33*

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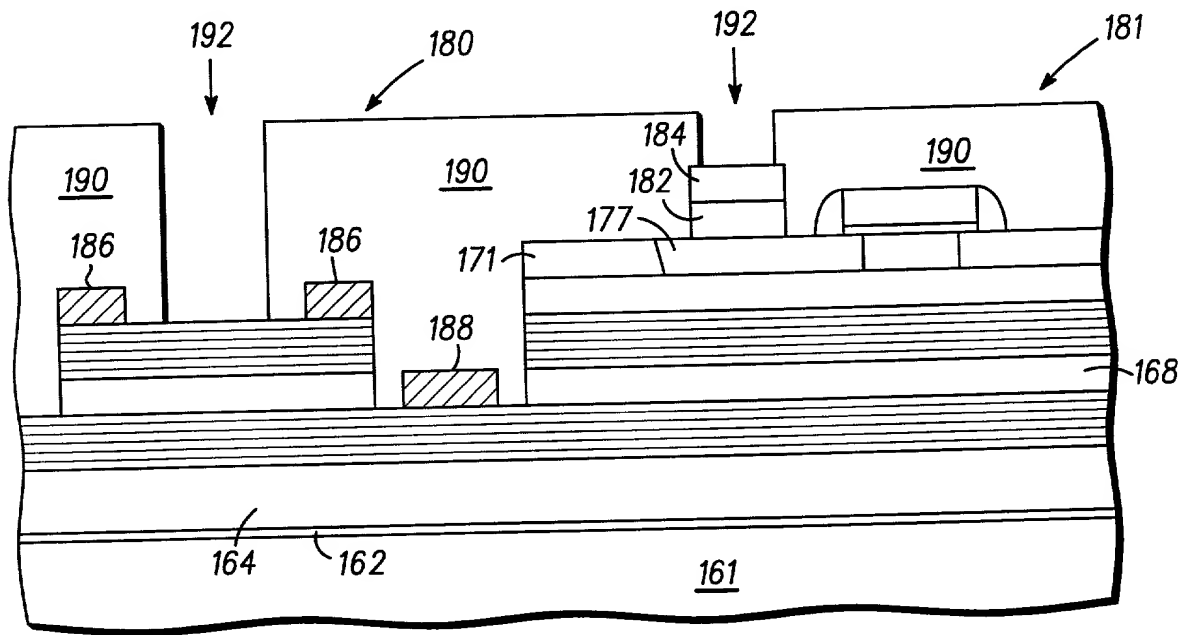


FIG. 34

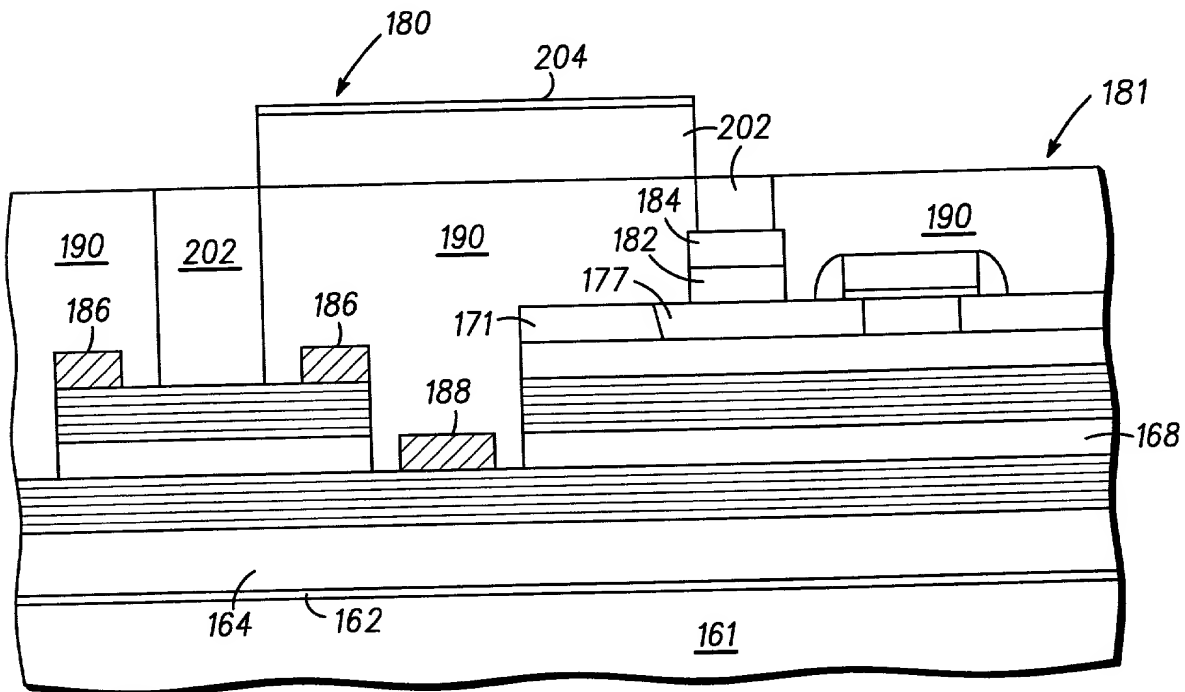


FIG. 35

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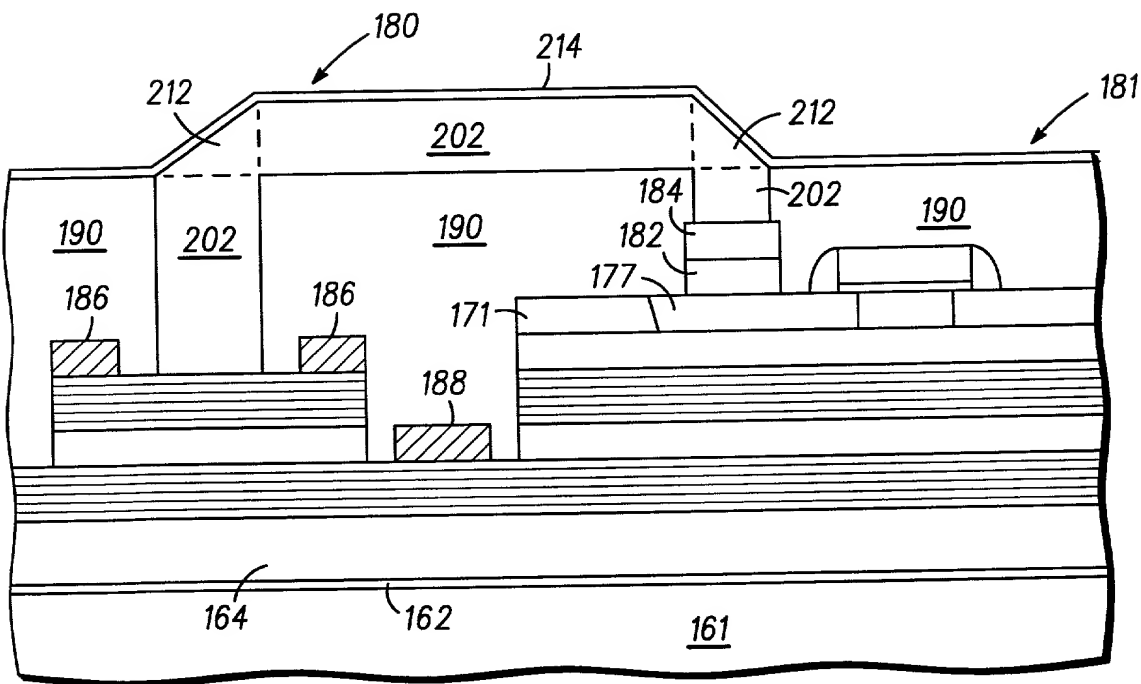


FIG. 36

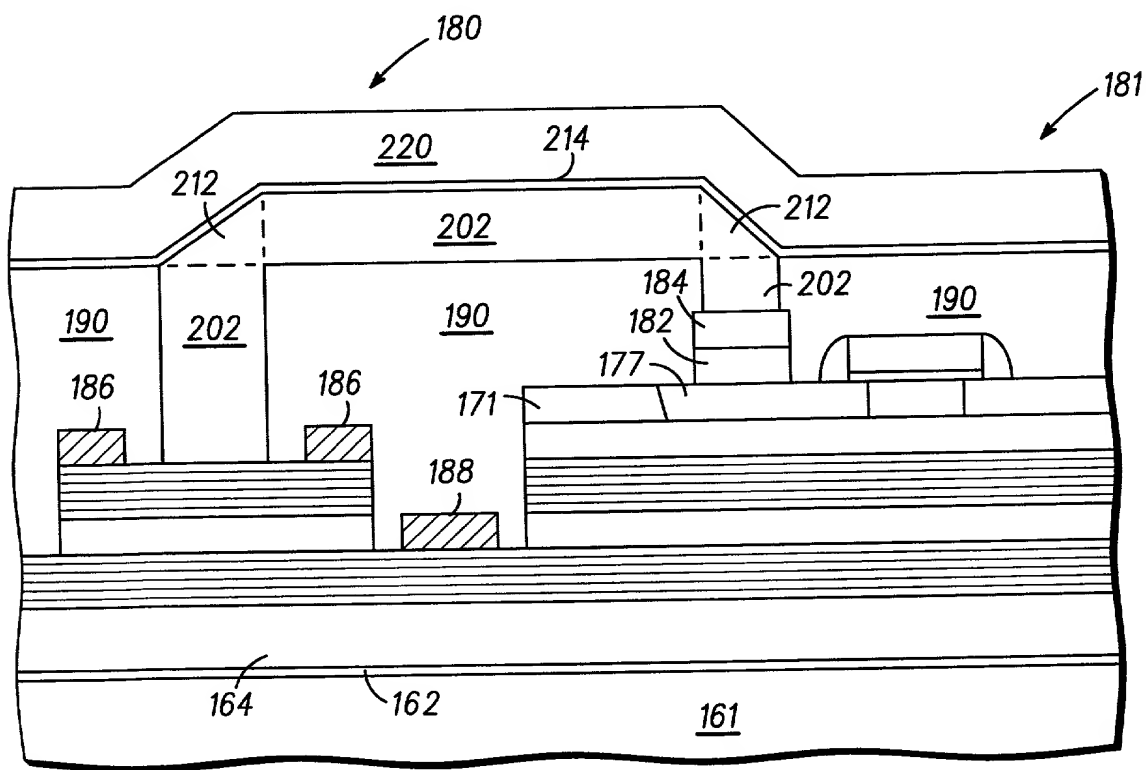


FIG. 37

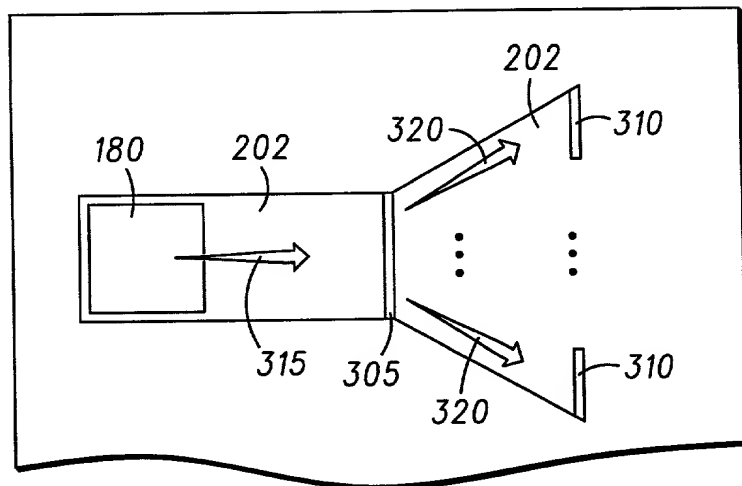


FIG. 38
300

FIG. 39
300

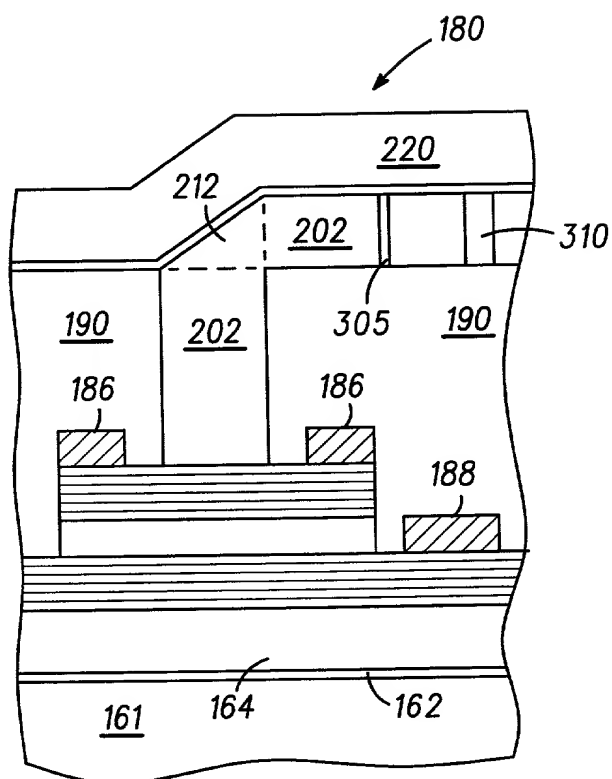
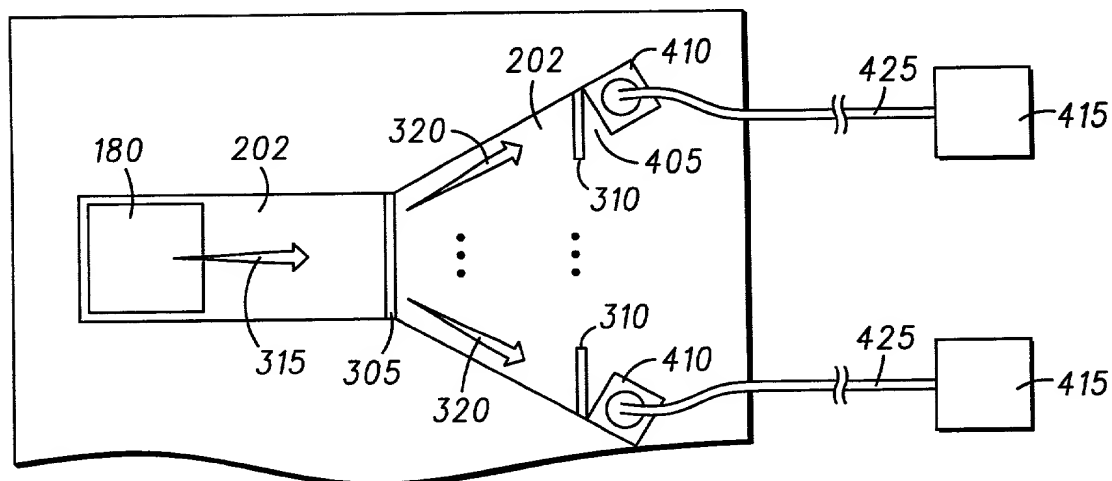
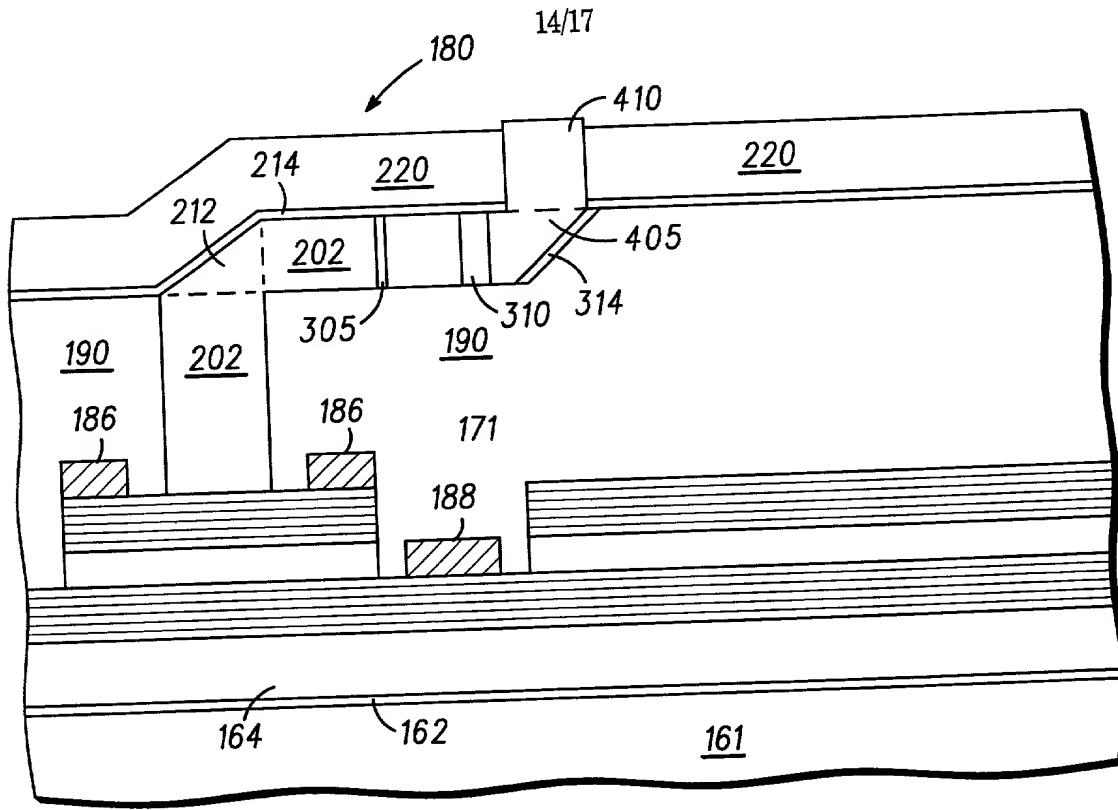


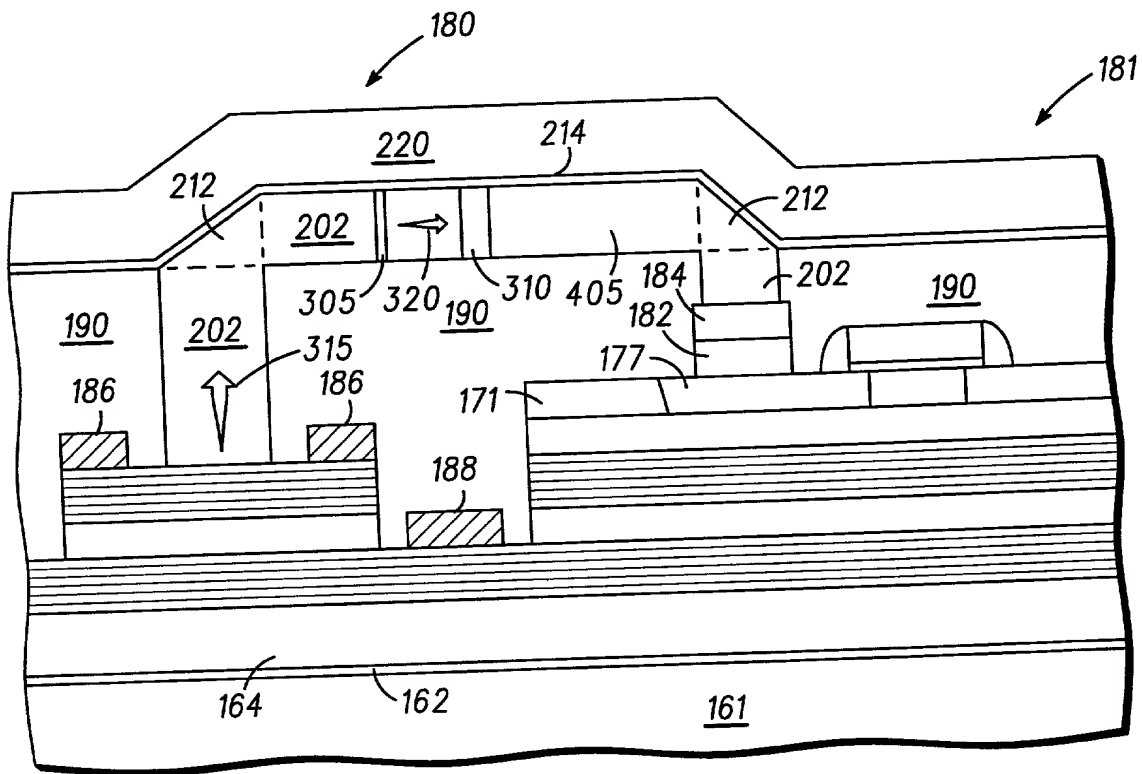
FIG. 40
400





400

FIG. 41

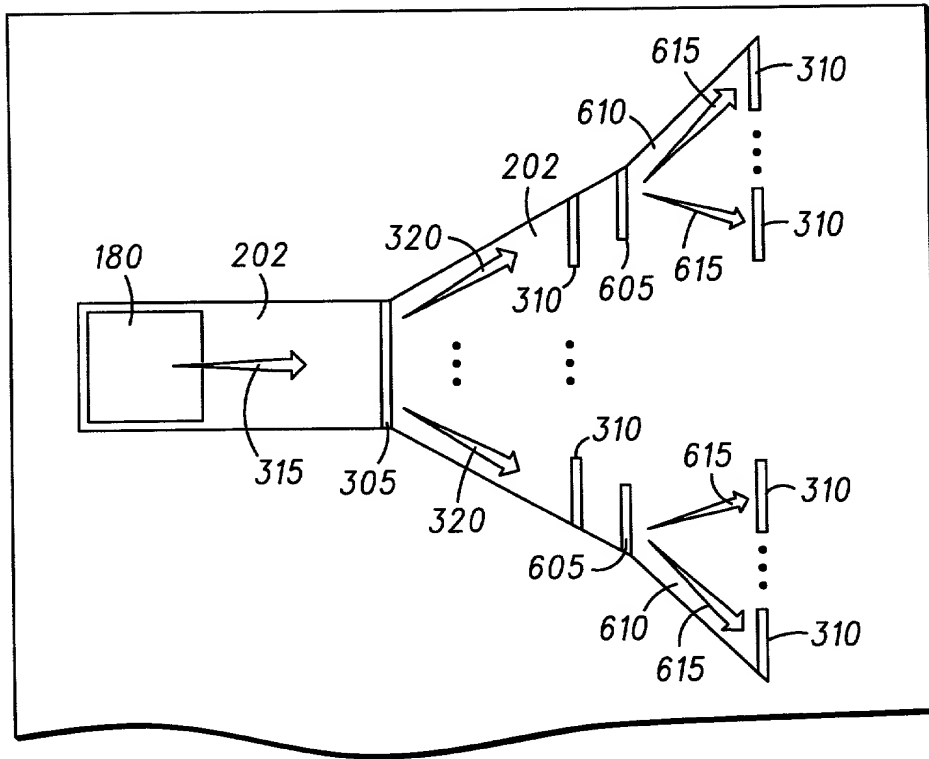


500

FIG. 42

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600

FIG. 43

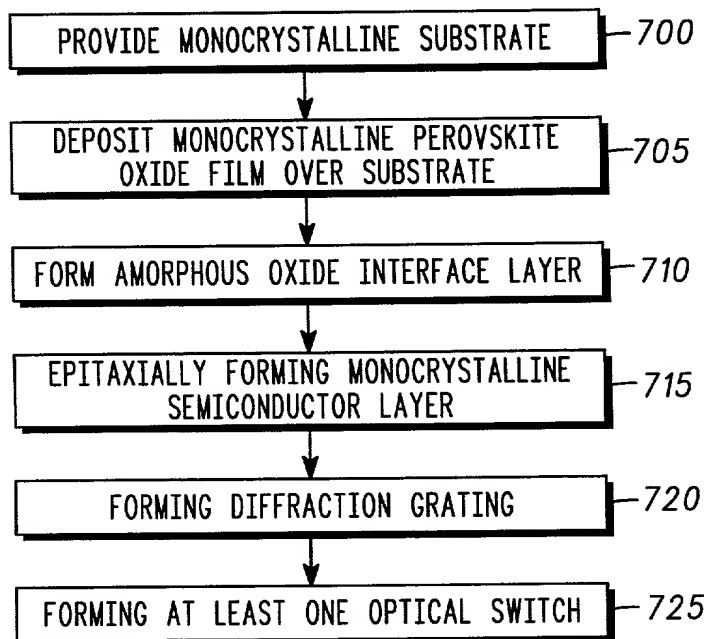


FIG. 44

	TRANSMITTANCE FUNCTION	INTENSITY PATTERN
RECTANGULAR APERATURE	$t(x_1, y_1) = \text{RECT}(\frac{x_1}{l_x}) \text{RECT}(\frac{y_1}{l_y})$	$I(x_0, y_0) = \frac{l_x^2 l_y^2}{2 \lambda^2 z^2} \text{SIN}^2(\frac{l_x x_0}{\lambda z}) \text{SIN}^2(\frac{l_y y_0}{\lambda z})$
CIRCULAR APERATURE	$t(r_1) = \text{CIRC}(\frac{r_1}{l/2})$	$I(r_0) = (\frac{kl^2}{8z})^2 [2 \frac{j_1(klr_0/2z)}{klr_0/2z}]^2$
SINUSOIDAL AMPLITUDE GATING	$t(x, y) = [\frac{1}{2} + \frac{m}{2} \cos(2\pi f_0 x)] \text{RECT}(\frac{x}{l}) \text{RECT}(\frac{y}{l})$	$I(x_0, y_0) = [\frac{l^2}{2 \lambda^2 z^2} \text{SIN}^2(\frac{y_0}{\lambda z}) \{ \text{SIN}^2(\frac{l x_0}{\lambda z}) + \frac{m^2}{4} \text{SIN}^2(\frac{l}{\lambda z} (x_0 + f_0 \lambda z)) + \frac{m^2}{4} \text{SIN}^2(\frac{l}{\lambda z} (x_0 - f_0 \lambda z)) \}]$
SINUSOIDAL PHASE GATING	$t(x_1, y_1) = \text{EXP}[j \frac{m}{2} \sin(2\pi f_0 x_1)] \text{RECT}(\frac{x_1}{l}) \text{RECT}(\frac{y_1}{l})$	$I(x_0, y_0) = (\frac{l^2}{\lambda^2 z^2})^2 \sum_{Q \dots \alpha}^{\alpha} j_2(\frac{m}{2}) \text{SIN}^2(\frac{l}{\lambda z} (x_0 - q f_0 \lambda z)) \text{SIN}^2(\frac{l y_0}{\lambda z})$

FIG. 45

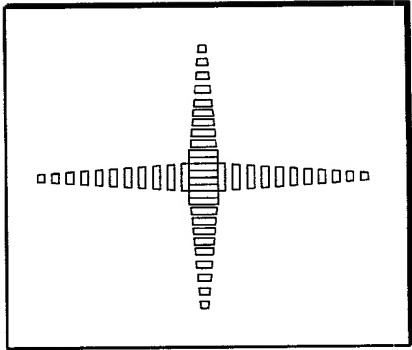


FIG. 46

NORMALIZED INTENSITY

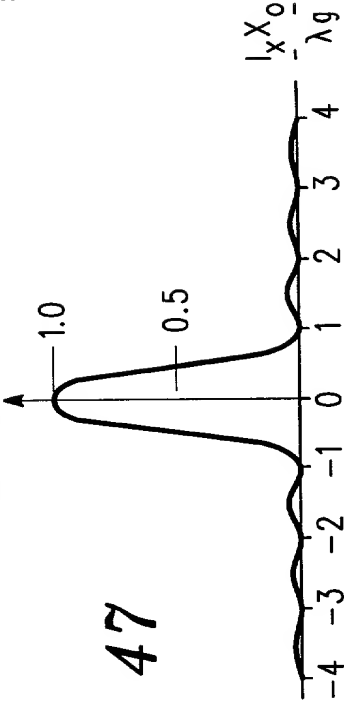


FIG. 47

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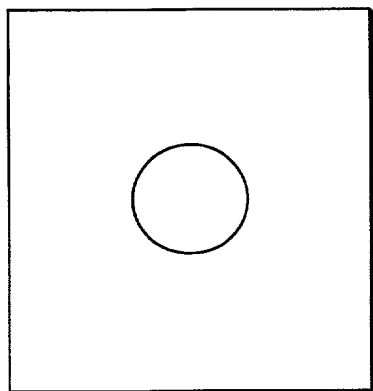


FIG. 48

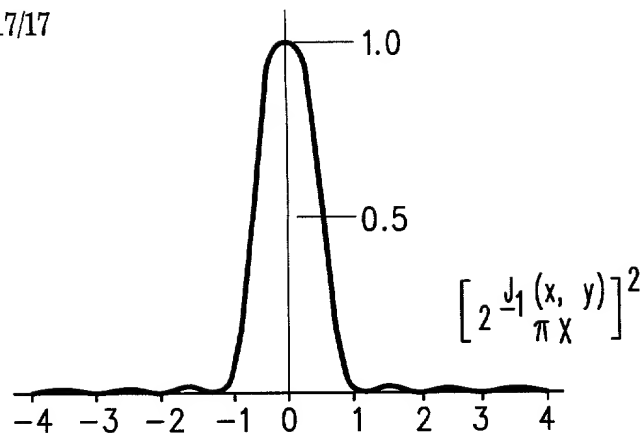


FIG. 49

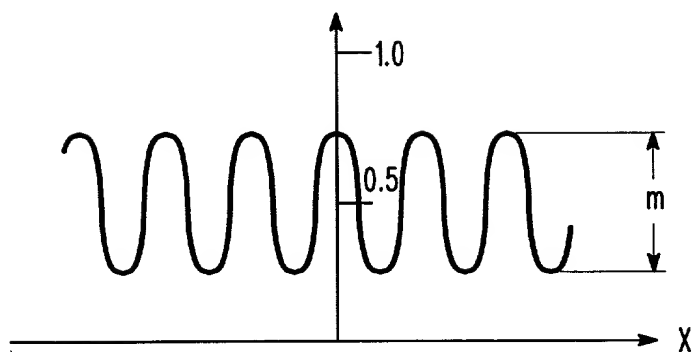


FIG. 50

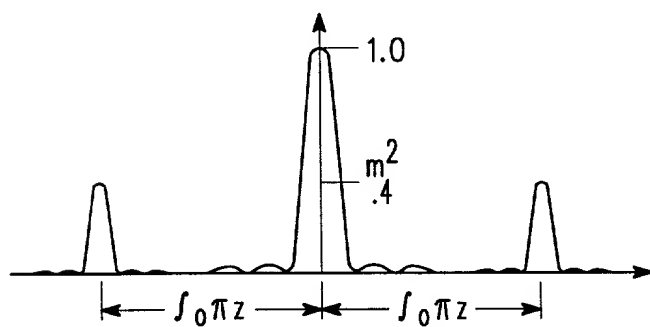


FIG. 51

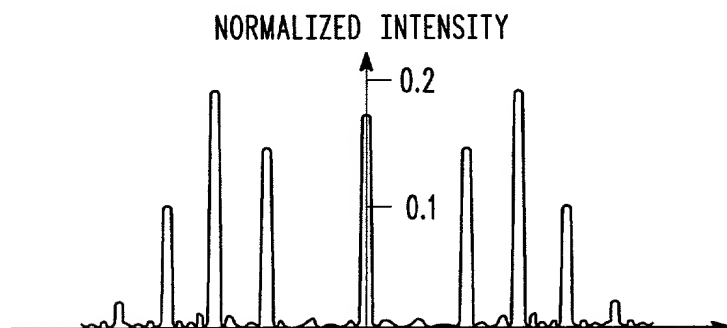


FIG. 52

FIG. 48